

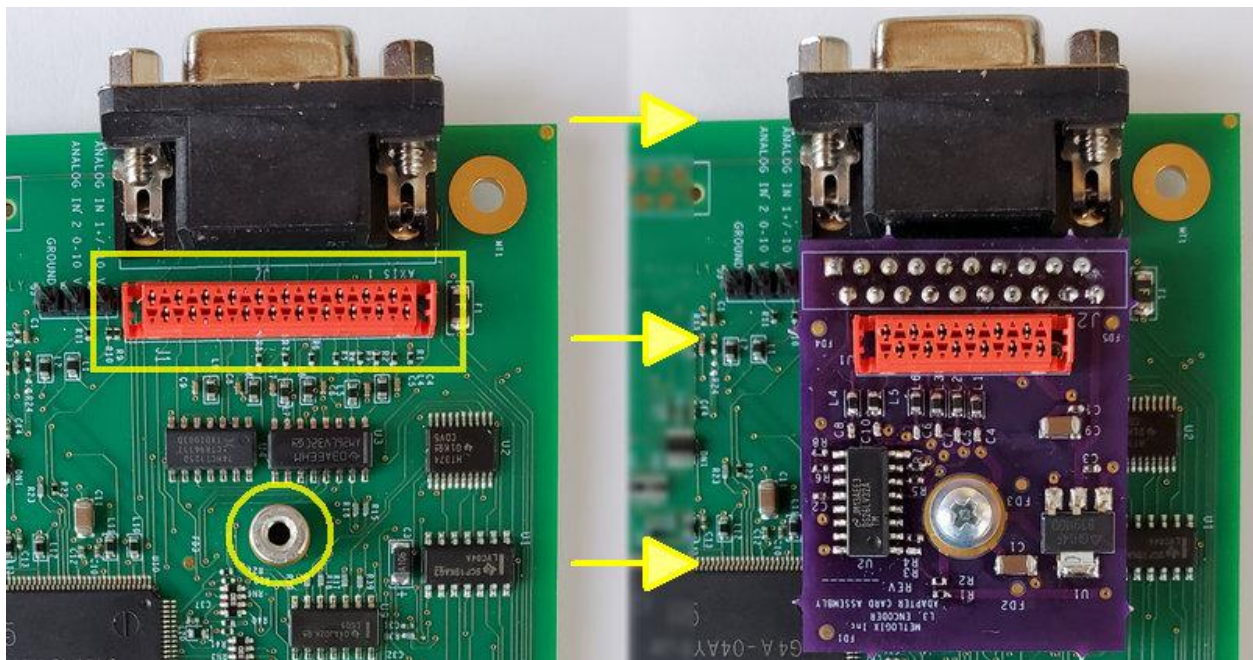
L3 Long-range Extensometer Setup

1 Purpose and Scope

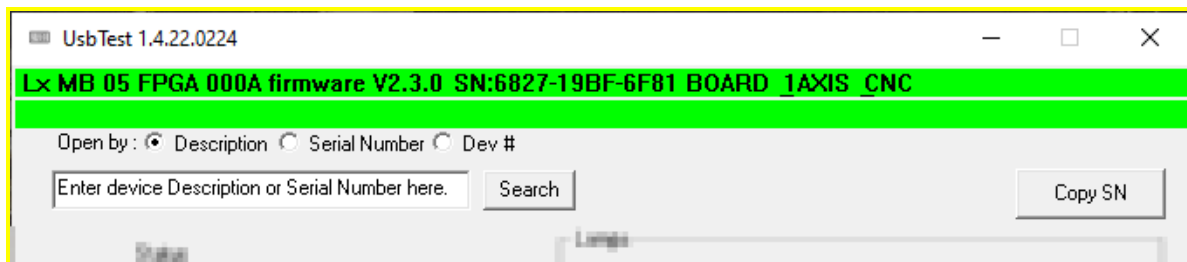
This document covers the mechanical and software setup of the TTL-based long-range extensometer (model QC-551) on both single (FMS) and dual column (MMD) L3 Series testing frames. This includes PCB hardware/firmware, cabling, mounting hardware, and software requirements/setup.

2 L3 board hardware/firmware prerequisites

The L3 PCB needs to be fitted with a daughtercard (PN 20070) to support the TTL encoder of the extensometer. In order to attach the daughtercard, a 20-pin Micro-MaTch connector needs to be added at J1 and a PEM inserted for securing the daughtercard:



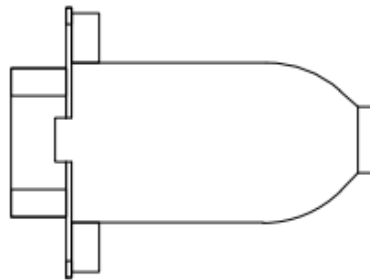
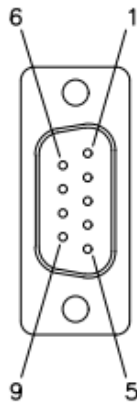
The L3 FPGA revision needs to be "A" and the firmware version 2.3.0 (or above).



3 Extensometer connectors/cabling

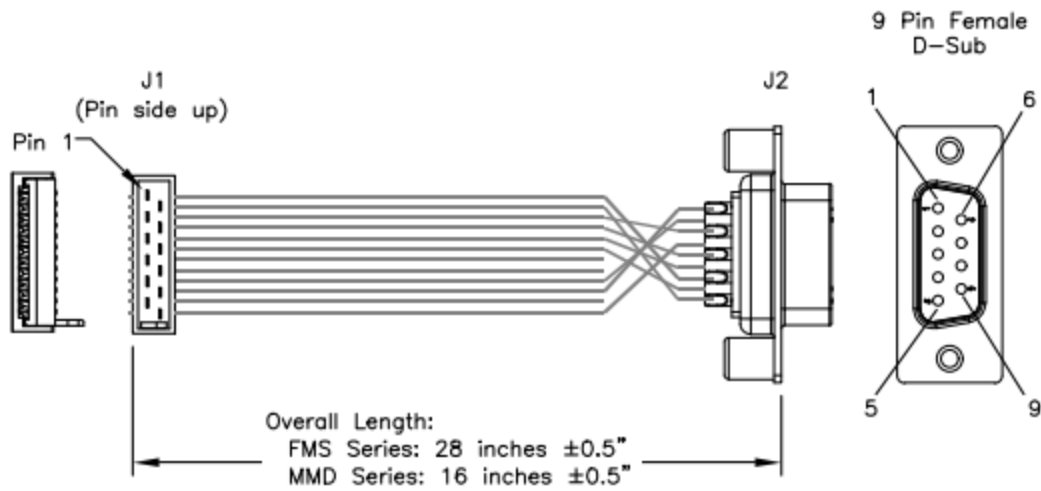
The QC-551 extensometer is received from the manufacturer with no connector supplied (bare wires) and must be fitted with a male DB9 connector (drawing 20071-01):

9 Pin Male
D-Sub Conn.



9 Pin Male	Color	Signal Name
1	Transparent	GND
2	Blue	A+
3	Purple	A-
4	Green	B+
5	Orange	B-
6	Black	GND
7	Red	VCC(+5V)
8	Yellow	R+
9	Brown	R-

On the force stand side, a cable (drawing 20072-01) needs to be installed from the 12-pin Micro-MaTch connector on the TTL daughtercard of the L3 PCB to a female DB9 connector mounted on the back of the stand for attaching the QC-551 extensometer:



J1 Tyco Electronics 12 Pin AMP Micro-MaTch 8-215083-2	J2 NorComp 9 Pin D-Sub, Female 171-009-203L011	Signal Name	Color
1	4	B+	Black
2	5	B-	White
3	2	A+	Gray
4	3	A-	Violet
5	8	R+	Blue
6	9	R-	Green
7			Yellow
8		GND	Orange
9	6	GND	Red
10	1	GND	Brown
11		VCC(+5V)	Black
12	7	VCC(+5V)	White



Extensometer cable installed in dual column test frame.

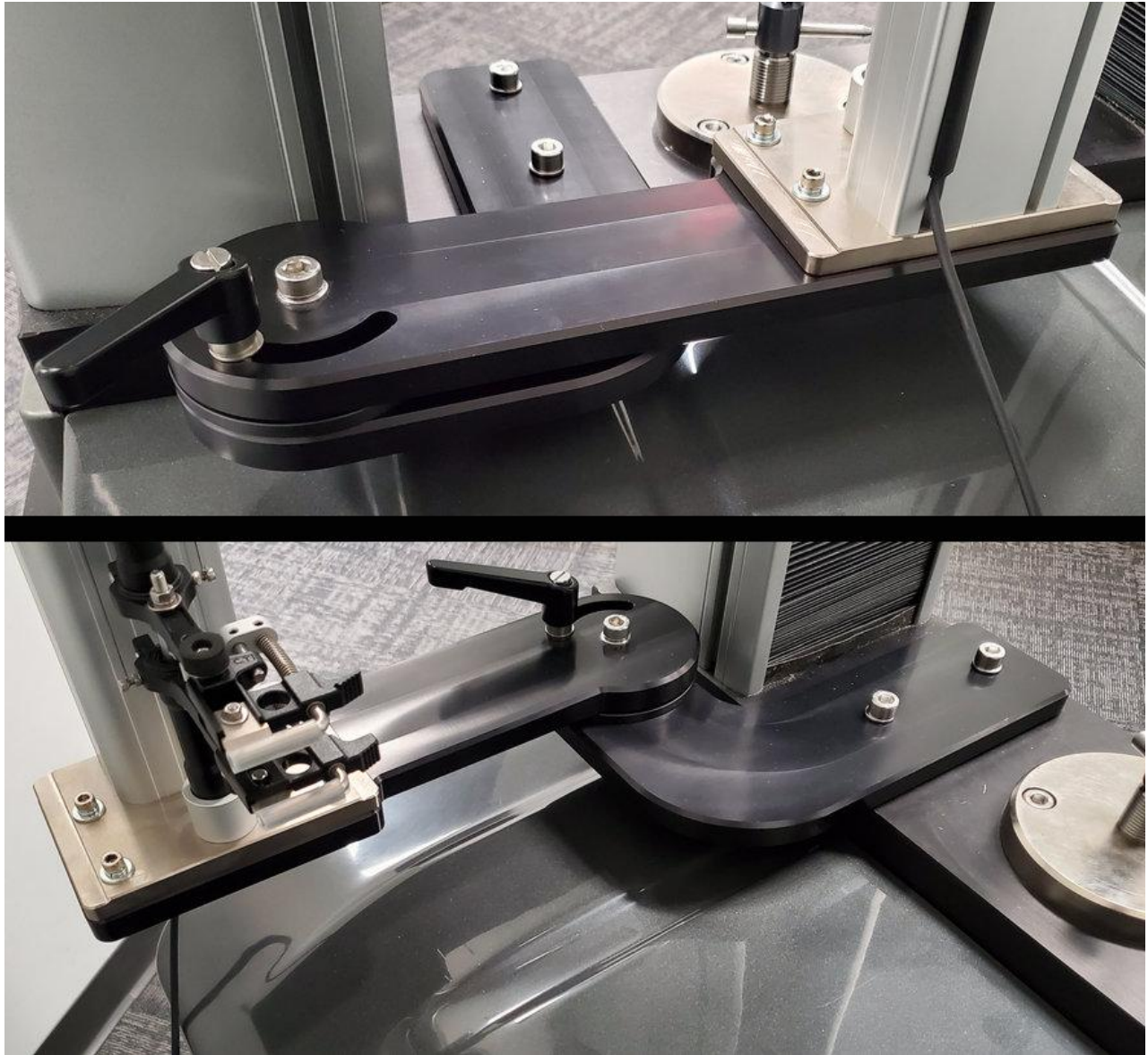
4 Mounting the Extensometer

On a single column FMS test frame, the extensometer is attached using mounting bracket 10985-00 (refer to assembly drawing 10984-00):





On a dual column MMD test frame, the extensometer is mounted to a bracket that allows it to be rotated out of the way when not in use (refer to assembly drawing 10990-00):







5 L3 software setup

Support for the TTL Extensometer is available in L3 software version 2.05.00.

The following required parameters must be added the [Hardware] section of Metlogix.ini:

```
[Hardware]
TTLExtEnable=1           ; enable TTL Extensometer
TTLExtResolution=0.01    ; resolution (mm)
TTLExtLength=30         ; default gage length (mm)
```

There is also an optional parameter, TTLExtShowDist, that if enabled (=1) will cause the readout for the extensometer to display distance traveled rather than the normal % elongation. This is intended for diagnostic purposes.